

DEVICE FOR THE DETECTION OF AT LEAST ONE LIGAND CONTAINED IN A  
SAMPLE THAT IS TO BE ANALYZED

ABSTRACT OF THE DISCLOSURE

Disclosed is a device for detecting at least one ligand contained in a sample that is to be analyzed. Said device comprises an optical waveguide, on the surface of which at least one ligand-specific receptor is directly or indirectly immobilized. The ligand bonds to said receptor during contact therewith. The inventive device comprises at least one optical source of radiation for injecting excitation radiation into the waveguide, the radiation being used for exciting emission of luminescence radiation in accordance with the bonding of the ligand to the receptor. At least one radiation receiver is integrated into the semiconductor substrate of a semiconductor chip so as to detect the luminescence radiation. The waveguide is integrated in a monolithic manner into the semiconductor substrate or is applied thereupon as a wave-guiding layer.